What is claimed is:

1. An edge router in a packet network comprising:

a processor resource for processing events;

at least one scheduler managing all events for processing by the processor resource;

at least one ready list; and

individual event pipelines dedicated to individual ones of BGP peers;

wherein events received for processing are posted in their associated event pipelines according to the source of the events, pipelines having events to be processed insert a flag in the ready list, and the scheduler repetitively scans the ready list sequentially, and releases events to the processor resource with preset limitation per pipeline.

2. The edge router of claim 1 wherein individual ones of the BGP peers are virtual private routed networks (VPRNs) away from the packet network.

3. The edge router of claim 1 wherein the preset limitation is a time limitation.

4. The edge router of claim 1 wherein the preset limitation is a buffer limitation.

5. The edge router of claim 2 comprising a first and a second scheduler, a first and a second ready list, and pipelines dedicated to events associated with both VPRNs and core BGP peers in the service provider network, wherein the pipelines associated with VPRNs communicate with the first scheduler and the first ready list, and the pipelines associated with the core

BGP peers communicate with the second scheduler and the second ready list.

6. A method for processing events in BGP peering in an edge router in a packet network, comprising acts of:

(a) placing received events associated with BGP peers in dedicated pipelines according to the BGP source;

(b) flagging a ready list by individual pipelines having events ready to be processed; and

(c) scanning the ready list sequentially and repeatedly by a scheduler, the scheduler sending events for each pipeline to be processed to a processing resource according to a preset limitation per pipeline.

7. The method of claim 6 wherein individual ones of the BGP peers are virtual private routed networks (VPRNs) away from the packet network.

8. The method of claim 6 wherein in act (c) the preset limitation is a time limitation.

9. The method of claim 6 wherein in act (c) the preset limitation is a buffer limitation.

10. The method of claim 7 comprising a first and a second scheduler, a first and a second ready list, and pipelines dedicated to events associated with both VPRNs and core BGP peers in the service provider network, wherein the pipelines associated with VPRNs communicate with the first scheduler and the first ready list, and the pipelines associated with the core BGP peers communicate with the second scheduler and the second ready list.

11. A machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method for processing events in BGP peering in an edge router in a packet network, including:

(a) placing received events associated with BGP peers in dedicated pipelines according to the BGP source;

(b) flagging a ready list by individual pipelines having events ready to be processed; and

(c) scanning the ready list sequentially and repeatedly by a scheduler, the scheduler sending events for each pipeline to be processed to a processing resource according to a preset limitation per pipeline.

12. The medium of claim 11 wherein, in the method, individual ones of the BGP peers are virtual private routed networks (VPRNs) away from the packet network.

13. The medium of claim 11 wherein in act (c) the preset limitation is a time limitation.

14. The medium of claim 11 wherein in act (c) the preset limitation is a buffer limitation.

15. The medium of claim 12 wherein the method comprises a first and a second scheduler, a first and a second ready list, and pipelines dedicated to events associated with both VPRNs and core BGB peers in the service provider network, wherein the pipelines associated with VPRNs communicate with the first scheduler and the first ready list, and the pipelines associated with the core BGP peers communicate with the second scheduler and the second ready list.